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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/008,185	11/09/2001	Bette M. Mullen	2103126-990110	4113

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EXAMINER

GOLDBERG, JEANINE ANNE

ART UNIT PAPER NUMBER

1634

DATE MAILED: 03/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/008,185

Applicant(s)

MULLEN ET AL.

Examiner

Jeanine A Goldberg

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This action is in response to the papers filed June 5, 2002. Currently, claims 1-7 are pending.

#### ***Priority***

2. This application claims priority to provisional application 60/247,325, filed November 10, 2001.

#### ***Claim Rejections - 35 USC § 112- Enablement***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-7 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Factors to be considered in determining whether a disclosure meets the enablement requirement of 35 USC 112, first paragraph, have been described by the court in *In re Wands*, 8 USPQ2d 1400 (CA FC 1988). *Wands* states at page 1404,

“Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized by the board in *Ex parte Forman*. They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.”

The claims are drawn to a hydrophobic fluorene polymer coating on said oxide layer.

The specification teaches that the preferred fluorene polymer coating is Cytonix made by Cytonix Corp (page 2, lines 15-16). The specification fails to provide any additional information regarding the fluorene polymer aside from the Trademark name of Cytonix.

The art teaches fluorene ( $C_{13}H_{10}$ ) is a hydrocarbon chemical present in the middle oil fraction of coal tar and is insoluble in water. Fluorene is also known as 2,3-benzindene and diphenylenemethane. Fluorene is a hydrophobic molecule, i.e. insoluble in water.

The art also teaches that fluorine is a gaseous or liquid chemical element which is a member of the halide family and is the most electronegative element. Fluorine is susceptible to further reactions.

Moreover, when searched, Cytonix was found to be a corporation, but none of the companies products appeared to be labeled Cytonix. Moreover, the products of Cytonix Corporation included Fluorothane and FluoroPel. Each of these products are hydrophobic and contain fluoropolymer solutions. The Cytonix website ([cytonix.com/fluoroproducts](http://cytonix.com/fluoroproducts)) teaches that the fluoroPel solutions are recommended for application to oxide surfaces.

The art teaches using polyfluorenes (fluorene polymers) in optical studies. Pogantsch teaches poly(fluorenes) are an attractive class of materials with deep blue

photoluminescence. Inaoka et al (PMSE Preprins Vol. 28, 2000) teaches that "the use of fluorene and its derivatives as laser-generating or photoactive fluorescent materials is well known. Additionally, Lee teaches poly(fluorene) derivatives are particularly interesting because of their thermal and oxidative stability, good processibility and their high emission quantum yields. The art fails to teach using polyfluorenes as a coating.

The art teaches using fluoropolymers such as poly(tetrafluoroethylene) (PTFE) and Teflon because of their low surface energy and stable C-F bonds which provide surfaces that are inert to most solvents and chemicals and that prevent the adhesion of most chemical and biological materials (col 1, lines 15-25). Moreover, Si-OH groups on silicon oxide surfaces can be reacted with organosilane reagents to covalently immobilize various desired functionalities on the fluoropolymer surface (col. 2, lines 30-35).

Neither the art nor the specification teach the skilled artisan how to use the claimed invention as a whole. As noted, the specification teaches Cytonix as a fluorene polymer coating. However, based upon the art, Cytonix does not appear to be a fluorene polymer, but rather a fluopolymer, a fluorine containing compound. While fluorene polymers have been taught in the art, the art has only taught how to use these polymers as photoluminescence. Neither the art nor the specification has taught how to use fluorene polymers as coatings with hydrophobic properties. The skilled artisan would be unable to use the claimed invention as claimed without further experimentation. Moreover, the specification is unclear with regard to the trademark name of Cytonix. Based upon the examiner's search of the art, Cytonix appears to be

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the name of a company and not the name of any particular product. Therefore, the skilled artisan would be unable to use Cytonix.

### ***Specification***

4. The use of the trademark Cytonix has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

### ***Conclusion***

5. **No claims allowable.**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner Jeanine Goldberg whose telephone number is (703) 306-5817. The examiner can normally be reached Monday-Friday from 8:00 a.m. to 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached on (703) 308-1152. The fax number for this Group is (703) 305-3014.

Any inquiry of a general nature should be directed to the Group receptionist whose telephone number is (703) 308-0196.

*J. Goldberg*

Jeanine Goldberg  
March 24, 2003

*M*  
D.J. FETMAN  
PATENT EXAMINER